

Marked-Up Copy
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IN THE SPECIFICATION

Please amend the specification as follows:

Page 1, after line 5, insert:

--BACKGROUND OF THE INVENTION--

Page 1, line 6, change to read:

--FIELD OF THE INVENTION--

Page 2, line 6, change to read:

--SUMMARY OF THE INVENTION--

Please amend the paragraph beginning on page 3, line 3, as follows:

--The invention [claimed in Claim 1] is a medium having a status information printing program recorded thereon to be run on a host computer in order for a printer to print status information. The host computer and the printer are connected for two-way communication. The medium causes the host computer to realize an output initiation instruction monitor function for monitoring the output initiation instruction for the status information that the printer outputs through the two-way communication, a status information acquisition function on the host side for acquiring status information data from the printer through the two-way communication, a printing data generation function for generating printing data to be printed by the printer based on the status information data acquired by the status information acquisition function on the host side when the output initiation instruction is recognized by

the output initiation instruction monitor function, and a printing data output function for outputting to the printer through the two-way communication the printing data generated by the printing data generation function.--

Please amend the paragraph beginning on page 3, line 22, as follows:

--In the invention [claimed in Claim 1], the printer and the host computer are connected for two-way communication. The status information is printed on the printer by processing the status information printing program run on the host computer. For this reason, with the status information printing program run on the host computer, the output initiation instruction monitor function monitors the output initiation instruction for the status information outputted by the printer through the two-way communication. In the status information acquisition function on the host side, the status information data is acquired from the printer through the two-way communication. When the output initiation instruction monitor function distinguishes the output initiation instruction, the printing data generation function generates the printing data to be printed on the printer based on the status information data acquired by the status information acquisition function on the host side. Then, the printing data generation function outputs the printing data to the printer through the two-way communication.--

Please amend the paragraph beginning on page 5, line 20, as follows:

--Thus, since the printer does not need to convert the status information data into printing data, it does not need to be equipped with an advanced processor. The printer can be simpler in structure depending on the type of printing data. As an example, the invention [claimed in Claim 2] is the medium [defined in Claim 1,] in which the printing data generated by the printing data generation function is dot image data.--

Please amend the paragraph beginning on page 6, line 3, as follows:

--In the invention [claimed in Claim 2], the printing data generation function generates printing data as dot image data. In other words, if the printing data based on dot image data is used, the printer can print the printing data as inputted into it. Therefore, it is not necessary to equip the printer with a font ROM, neither is it necessary for a processor to perform printing data generation processing based on a page description language. It is consequently possible to make the printer simpler in structure.--

Please amend the paragraph beginning on page 6, line 12, as follows:

--In the host computer that executes the program of this invention, there are various methods of monitoring the output initiation instruction. As an example, the invention [claimed in Claim 3] is the medium [defined in Claim 1 or 2,] in which it constitutes part of the status information data in the printer whether the output initiation instruction exists or not. The output initiation instruction monitor function monitors whether the output initiation instruction is contained in the status information data acquired by the status information acquisition function on the host side.--

Please amend the paragraph beginning on page 6, line 22, as follows:

--In the invention [claimed in Claim 3], it constitutes part of the status information data in the printer whether the output initiation instruction exists. The status information acquisition function on the host side of the host computer, which runs the program of this invention, has acquired the status information data from the printer. The output initiation instruction monitor function monitors whether the acquired status information data contains the output initiation instruction. Because the host computer has acquired with the status information acquisition function on the host side the status information data including the data as to whether the output initiation instruction exists, the computer can judge if the output initiation instruction exists by monitoring the status information data with the output

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initiation instruction monitor function. The status information acquisition function on the host side may periodically acquire status information data, or alternatively may acquire the newest data any time there is a change in the status information.--

Please amend the paragraph beginning on page 7, line 16, as follows:

--As another example of the structure for monitoring the output initiation instruction in the host computer, which executes the program of this invention, the invention [claimed in Claim 4] is the medium [defined in Claim 1 or 2,] in which the output initiation instruction is a trigger transmitted from the printer through the two-way communication. The output initiation instruction monitor function judges whether the trigger is received.--

Please amend the paragraph beginning on page 7, line 24, as follows:

--In the invention [claimed in Claim 4], the output initiation instruction is a trigger transmitted from the printer through the two-way communication. The output initiation instruction monitor function of the host computer, which executes the program of this invention, determines whether the trigger is received through the two-way communication. The printer can output a trigger as an output initiation instruction through the two-way communication. The output initiation instruction monitor function monitors the trigger. When the trigger is received, the printing data generation function may generate the printing data.--

Please amend the paragraph beginning on page 8, line 19, as follows:

--As stated above, the host computer acquires the status information from the printer and outputs the printing data generated in itself. However, if the printer is jammed or fails otherwise, it can perform no printing, so that no status information may be acquired. As an example suitable for such a case, the invention [claimed in Claim 5] is the medium [defined in any one of Claims 1 - 4,] in which the status information acquisition function on the host

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side analyzes the status of the printer based on the acquired status information data. If the printer can perform no printing, the status information acquisition function on the host side so warns the user on the host computer.--

Please amend the paragraph beginning on page 9, line 7, as follows:

--In the invention [claimed in Claim 5], the status information acquisition function on the host side can analyze the contents of the acquired data. In other words, the status information acquisition function on the host side analyzes the status of the printer based on the acquired status information data. If the printer can perform no printing, the host computer so warns the user. Therefore, because the user can judge whether the processing on the host computer is performed, he or she can avoid waiting for a considerable time for the status information to be printed. The user can obtain at least the information that the status of the printer is unprintable.--

Please amend the paragraph beginning on page 10, line 4, as follows:

--As stated hereinbefore, two-way communication is held between the printer and the host computer to print a status sheet. In order to acquire more accurate status information by taking advantage of two-way communication, the invention [claimed in Claim 6] is the medium [defined in any one of Claims 1 - 5,] in which the status information acquisition function on the host side acquires the communication mode as the status information data when two-way communication is held with the printer.--

Please amend the paragraph beginning on page 10, line 12, as follows:

--In the invention [claimed in Claim 6], the status information acquisition function on the host side acquires the real communication mode as the status information data when the two-way communication takes place. Therefore, the printed status sheet precisely reflects the communication mode. A communication mode may not be precisely printed by the

conventional printer or the like, which prints a status sheet by using the status information held by itself. The communication mode depends on the relationship between the printer and the host computer. Two-way communication is not necessarily held in the communication mode held by the printer. In this invention, two-way communication is held between the printer and the host computer necessarily when a status sheet is printed, and the actual communication mode is acquired as the status information. Therefore, the status sheet is precisely printed with the good communication mode at all times.--

Please amend the paragraph beginning on page 11, line 4, as follows:

--The invention [claimed in Claim 7] is the medium [defined in any one of Claims 1 - 6], in which the printing data generation function generates from a default file the form of the printing images that the printer prints, then generates the character string image corresponding to the status based on the status information data, and generates the printing image by superposing them together.--

Please amend the paragraph beginning on page 11, line 11, as follows:

--In the invention [claimed in Claim 7], the form of the fixed (typical) images and the character string images that change with the status are individually generated, and then superposed to generate the printing images.--

Please amend the paragraph beginning on page 12, line 1, as follows:

--As a specific printer that has a simple structure and prints status information, the invention [claimed in Claim 8] is a printer for holding two-way communication with a host computer and printing status information about itself. This printer comprises an output initiation instruction unit for instructing the output initiation of the status information, a status information acquisition unit on the printer's side for acquiring status information data on the printer, a status information output unit for outputting through the two-way communication

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the status information data acquired by the status information acquisition unit on the printer's side, and causing the host computer to generate printing data for the printer to print the status information, and a printing unit for receiving the printing data from the host computer through the two-way communication and performing predetermined printing based on the received data.--

Please amend the paragraph beginning on page 12, line 17, as follows:

--As stated above, the invention [claimed in Claim 8] is a printer for holding two-way communication with a host computer and printing status information about itself. The output initiation instruction unit enables a user to instruct the output initiation of the status information. The status information acquisition unit on the printer's side acquires the status information data on the printer. The status information output unit outputs through the two-way communication the status information data acquired by the status information acquisition unit on the printer's side. Consequently, the host computer generates the printing data for the printer to print the status information, and outputs the generated printing data through the two-way communication. The printing unit causes the printer to receive the printing data from the host computer through the two-way communication and perform the predetermined printing based on the received data.--

Please amend the paragraph beginning on page 14, line 1, as follows:

--There are various forms of output initiation instructions on the printer. The printer [defined in Claim 10] can cope with a case [as shown in Claim 3] where the output initiation instruction is part of the status information data, and where the host computer acquires the status information data containing the output initiation instruction. The printer [defined in Claim 11] can cope with a case [as shown in Claim 4] where the output initiation instruction is a trigger output, and where the host computer monitors the trigger. There are various

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constitutions for users to give the output initiation instruction on the printer. As an example, the invention [claimed in Claim 12] is the printer [defined in any one of Claims 8 - 11,] in which the output initiation instruction unit includes a predetermined instruction button.

Multiple operation of the instruction button gives the output initiation instruction.--

Please amend the paragraph beginning on page 14, line 16, as follows:

--In the invention [claimed in Claim 12], the printer includes the predetermined instruction button, the multiple operation of which gives the output initiation instruction. In other words, while it is preferable that the hardware mounted in the printer be less to make the printer simple in structure, the instruction button can be easily constituted. The number of instruction buttons can be small if different functions are determined by the number of times they are pushed. Specifically, different functions can be achieved by the instruction buttons being pushed once and twice within a predetermined unit time.--

Please amend the paragraph beginning on page 15, line 2, as follows:

--The status information to be printed for confirmation includes the information on the toner that decreases gradually as the printing operation goes on and the information on the mounted memory that will not decrease once the power is turned on. For this reason, the invention [claimed in Claim 13] is the printer [defined in any one of Claims 8 - 12,] in which the status information acquisition unit on the printer's side acquires fixed status information only when the printer is booted, and this unit acquires sequentially updated status information when the status is updated.--

Please amend the paragraph beginning on page 15, line 12, as follows:

--In the invention [claimed in Claim 13], the status information is not acquired uniformly. Although the fixed status information is acquired only when the printer is booted,

the status information that may be successively updated is acquired every time the status is updated. Thus, the processing burden that acquires the status information is reduced.--

Page 34, line 15, delete in its entirety.

Please amend the paragraph beginning on page 34, last line, as follows:

--In accordance with the invention [of Claim 2], by generating the printing data based on the dot image data, the font ROM becomes unnecessary on the printer, the processing based on the page description language in the processor becomes unnecessary, and the printer composition becomes simple. These make an answer to the printer of a low cost model.--

Please amend the paragraph beginning on page 35, line 6, as follows:

--In accordance with the invention [of Claim 3], the initiation instruction of the status information output can be easily given.--

Please amend the paragraph beginning on page 35, line 8, as follows:

--In accordance with the invention [of Claim 4], the initiation instruction of the status information output can be easily given.--

Please amend the paragraph beginning on page 35, line 10, as follows:

--In accordance with the invention [of Claim 5], the user can confirm whether the status information is to be printed in the unprintable state.--

Please amend the paragraph beginning on page 35, line 13, as follows:

--In accordance with the invention [of Claim 6], the status sheet can accurately show the communication mode at all times.--

Please amend the paragraph beginning on page 35, line 15, as follows:

--In accordance with the invention [of Claim 7], the processing burden can be mitigated by minimizing the individual image generation processing. Especially the

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processing of creating the form from the default file can be simplified since it takes advantage of the operating system function.--

Please amend the paragraph beginning on page 35, line 20, as follows:

--In accordance with the invention [inventions of Claims 8 to 13], with the processor it is not to generate the printing data, neither is it necessary to perform the processing based on the Page Description Language. The font ROM becomes unnecessary. As a result, the printer composition can be more simplified.--

Please amend the paragraph beginning on page 36, line 1, as follows:

--Especially, in accordance with the invention [of Claim 13], the printer of low processing capability can be available because the composition minimizes the amount of the information to be updated, making a processing burden mitigated.--

Please amend the paragraph beginning on page 36, line 5, as follows:

--In accordance with the invention [inventions of Claims 14 to 20], a printing controller, which enables a simple and low-cost printer to print the status information, can be offered.--

Please amend the paragraph beginning on page 36, line 8, as follows:

--In accordance with the invention [inventions of Claims 21 to 27], a status information printing method, which enables a simple and low-cost printer to print the status information, can be offered.--

Please amend the paragraph beginning on page 36, line 11, as follows:

--In accordance with the invention [of Claim 28], a status information printing system, which enables a simple and low-cost printer to print the status information, can be offered.--

IN THE CLAIMS

Please amend the claims as follows:

--3. (Amended) The medium according to Claim 1 [Claims 1 or 2], characterized by:

[it constituting] part of the status information data being in the printer whether the output initiation instruction exists or not; and

the output initiation instruction monitor function monitoring whether the output initiation instruction is contained in the status information data acquired by the status information acquisition function on the host side.

4. (Amended) The medium according to Claim 1 [Claims 1 or 2], characterized by:

the output initiation instruction being a trigger transmitted from the printer through the two-way communication; and

the output initiation instruction monitor function judging whether the trigger is received.

5. (Amended) The medium according to Claim 1 [any of Claims 1 - 4], characterized by:

the status information acquisition function analyzing the status of the printer based on the acquired status information data; and

the status information acquisition function warning a user on the host computer if the printer can perform no printing.

6. (Amended) The medium according to Claim 1 [any of Claims 1 - 5], characterized by the status information acquisition function acquiring the communication mode as the status information data when two-way communication is held with the printer.

7. (Amended) The medium according to Claim 1 [any of Claims 1 - 6], characterized by by the printing data generation function generating from a default file the form of the

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printing images to be printed by the printer, then generating the character string image corresponding to the status based on the status information data, and generating the printing image by superposing them together.

8. (Amended) A printer for holding two-way communication with a host computer and printing status information about the printer, the printer [being characterized by] comprising:

an output initiation instruction unit for instructing the output initiation of the status information;

a status information acquisition unit on the printer's side for acquiring status information data on the printer;

a status information output unit for outputting through the two-way communication the status information data acquired by the status information acquisition unit on the printer's side, and causing the host computer to generate printing data for the printer to print the status information; and

a printing unit for receiving the printing data from the host computer through the two-way communication and performing predetermined printing based on the received data.

10. (Amended) The printer according to Claim 8 [Claims 8 or 9], characterized by:

the status information acquisition unit including a status information data storage part for storing status information data, and writing the output initiation instruction as part of the status information data in accordance with the output initiation instruction of the output initiation instruction unit; and

the status information output unit outputting through the two-way communication the status information data stored in the status information data storage part.

11. (Amended) The printer according to Claim 8 [Claims 8 or 9], characterized by:

the output initiation instruction unit outputting a trigger as the output initiation instruction through the two-way communication; and

the status information output unit outputting the status information data acquired by the status information acquisition unit after the trigger is outputted.

12. (Amended) The printer according to [any of Claims 8 - 11] Claim 8, characterized by the output initiation instruction unit including a predetermined instruction button, multiple operation of which gives the output initiation instruction.

13. (Amended) The printer according to [any of Claims 8 - 12] Claim 8, characterized by:

the status information acquisition unit acquiring fixed status information only when the printer is booted; and

the status information acquisition unit acquiring sequentially updated status information when the status is updated.

14. (Amended) A printing controller for causing a printer connected for two-way communication to print status information on the printer, the printing controller [being characterized by] comprising:

an output initiation instruction monitor unit for monitoring the output initiation instruction for the status information that the printer outputs through the two-way communication;

a status information acquisition unit on the host side for acquiring status information data from the printer through the two-way communication;

a printing data generation unit for generating printing data to be printed by the printer based on the status information data acquired by the status information acquisition unit on the

host side when the output initiation instruction monitor unit recognizes the output initiation instruction; and

a printing data output unit for outputting to the printer through the two-way communication the printing data generated by the printing data generation unit.

16. (Amended) The printing controller according to Claim 14 [Claims 14 or 15], characterized by:

[it constituting] part of the status information data being in the printer whether the output initiation instruction exists or not; and

the output initiation instruction monitor unit monitoring whether the output initiation instruction is contained in the status information data acquired by the status information acquisition unit on the host side.

17. (Amended) The printing controller according to Claim 14 [Claims 14 or 15], characterized by:

the output initiation instruction being a trigger transmitted from the printer through the two-way communication; and

the output initiation instruction monitor unit judging whether the trigger is received.

18. (Amended) The printing controller according to [any of Claims 14 -17] Claim 14, characterized by:

the status information acquisition unit analyzing the status of the printer based on the acquired status information data; and

the status information acquisition unit warning a user if the printer can perform no printing.

19. (Amended) The printing controller according to [any of Claims 14 -18] Claim 18, characterized by the status information acquisition unit acquiring the communication mode as the status information data when two-way communication is held with the printer.

20. (Amended) The printing controller according to [any of Claims 14-19] Claim 14, characterized by the printing data generation unit generating from a default file the form of the printing images to be printed by the printer, then generating the character string image corresponding to the status based on the status information data, and generating the printing image by superposing them together.

21. (Amended) A status information printing method for causing a printer to print status information under the control of a host computer, the printer and the host computer being connected for two-way communication, the method [being characterized by] comprising:

an output initiation instruction monitor step for monitoring the output initiation instruction for the status information that the printer outputs through the two-way communication;

a status information acquisition step on the host side for acquiring status information data from the printer through the two-way communication;

a printing data generation step for generating printing data to be printed by the printer based on the status information data acquired in the status information acquisition step on the host side when the output initiation instruction is recognized in the output initiation instruction monitor step; and

a printing data output step for outputting to the printer through the two-way communication the printing data generated in the printing data generation step.

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23. (Amended) The status information printing method according to Claim 21 [Claims 21 or 22], characterized by:

[it constituting] part of the status information data being in the printer whether the output initiation instruction exists or not; and
the output initiation instruction monitor step monitoring whether the output initiation instruction is contained in the status information data acquired in the status information acquisition step on the host side.

24. (Amended) The status information printing method according to Claim 21 [Claims 21 or 22], characterized by:

the output initiation instruction being a trigger transmitted from the printer through the two-way communication; and

the output initiation instruction monitor step judging whether the trigger is received.

25. (Amended) The status information printing method according to [any of Claims 21 - 24] Claim 21, characterized by:

the status information acquisition step analyzing the status of the printer based on the acquired status information data; and

the status information acquisition step warning a user if the printer can perform no printing.

26. (Amended) The status information printing method according to [any of Claims 21 - 25] Claim 21, characterized by the status information acquisition step acquiring the communication mode as the status information data when two-way communication is held with the printer.

27. (Amended) The status information printing method according to [any of Claims 21 - 26] Claim 21, characterized by the printing data generation step generating from a

default file the form of the printing images to be printed by the printer, then generating the character string image corresponding to the status based on the status information data, and generating the printing image by superposing them together.--

IN THE ABSTRACT

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